

CORNELL UNIVERSITY

OFFICIAL PUBLICATION

JULY 1, 1949

Independent Departments

MILITARY SCIENCE AND TACTICS

AIR SCIENCE AND TACTICS

NAVAL SCIENCE

PHYSICAL EDUCATION, MEN

PHYSICAL EDUCATION, WOMEN

CLINICAL AND PREVENTIVE MEDICINE



ANNOUNCEMENT FOR 1949-1950 SESSIONS

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No. 16887

v. 41

The University Calendar

1949-1950

FALL TERM

Freshman Orientation begins Sept. 15, *Thursday*
Registration Sept. 19-20, *Monday and Tuesday*
Instruction begins Sept. 21, *Wednesday*, 1 p.m.
Midterm grades due Nov. 9, *Wednesday*
Thanksgiving recess:
 Instruction suspended Nov. 23, *Wednesday*, 12:50 p.m.
 Instruction resumed Nov. 28, *Monday*, 8 a.m.
Christmas recess:
 Instruction suspended Dec. 21, *Wednesday*, 10 p.m.
 Instruction resumed Jan. 5, 1950, *Thursday*, 8 a.m.
Examinations begin Jan. 23, *Monday*
Examinations end Feb. 1, *Wednesday*
Midyear holiday Feb. 2, *Thursday*

SPRING TERM

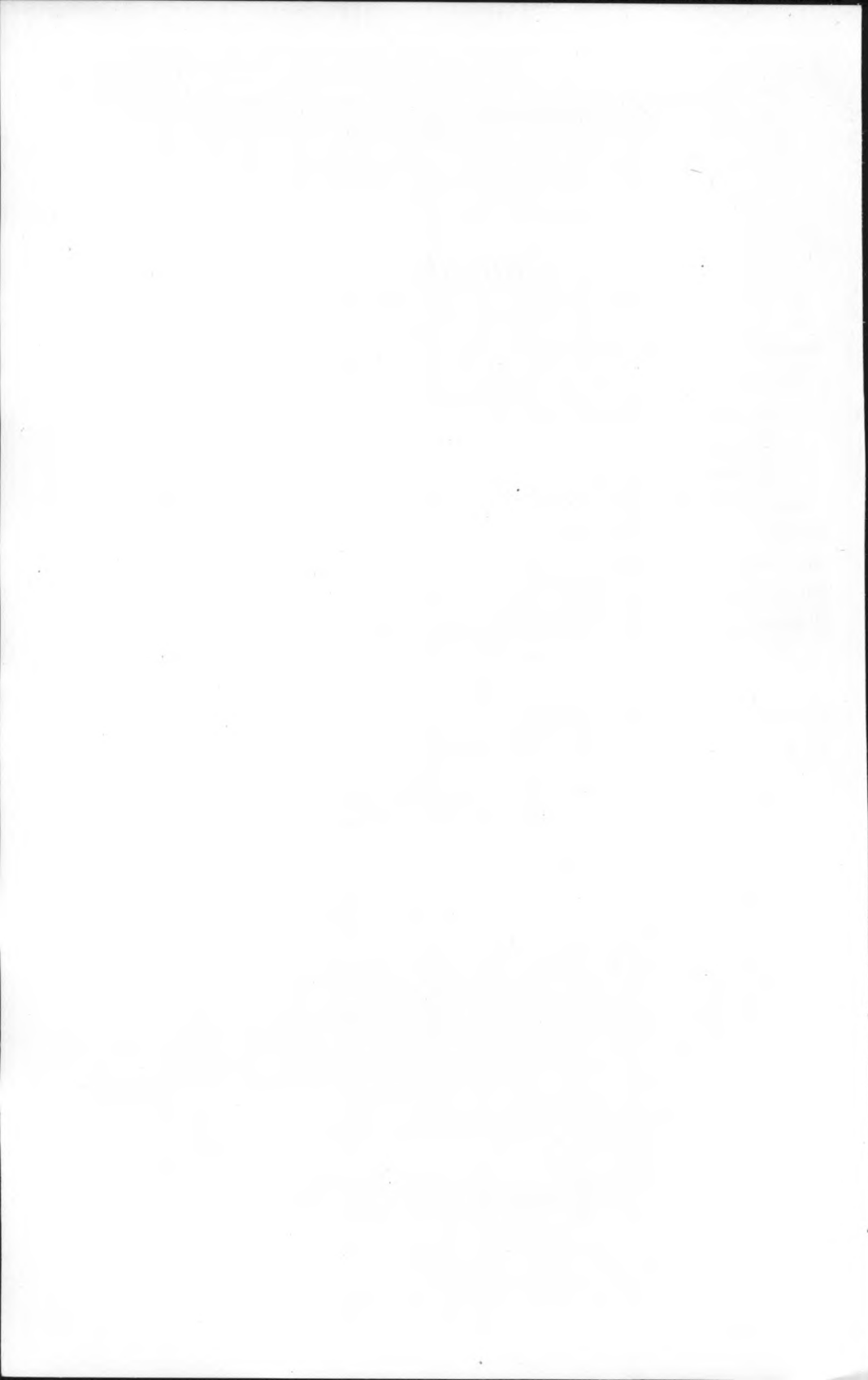
Registration Feb. 3-4, *Friday and Saturday*
Instruction begins Feb. 6, *Monday*, 8 a.m.
Midterm grades due March 25, *Saturday*
Spring recess:
 Instruction suspended March 25, *Saturday*, 12:50 p.m.
 Instruction resumed April 3, *Monday*, 8 a.m.
Examinations begin May 29, *Monday*
Examinations end June 6, *Tuesday*
Commencement Day June 12, *Monday*

CORNELL UNIVERSITY OFFICIAL PUBLICATION

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The Independent Departments

THIS Announcement contains information concerning the courses of instruction offered by the Departments of Military Science and Tactics, Air Science and Tactics, Naval Science, Physical Education, and Clinical and Preventive Medicine. These departments are similar in that they serve the entire University and are not divisions of any School or College.

CREDITS

In the course descriptions that follow, academic credit is assigned on the generally accepted University basis. Credit for courses successfully completed will be so recorded by the Registrar. Whether or not credit granted in an Independent Department may be counted toward fulfilling the requirements for any of the several academic degrees is determined, however, by the Faculties of the several Schools and Colleges. For this information, the student should consult the Announcement of the academic division in which he is enrolled.

UNIVERSITY REQUIREMENTS

Military Science. The University Faculty has established the following requirements in military science for male students:

1. All undergraduate men students must complete four terms of work, three hours a week, in military science.
2. The requirement in military science is a requirement of the first four terms and postponements are to be allowed only with the consent of the Committee on Military Science and Physical Training.
3. Exemptions from the requirement may be granted to aliens, conscientious objectors, and to students recommended for exemption by the University Medical Office. It is recognized that some other conditions, such as those of age, residence, or unusual outside responsibilities may be accepted as basis for exemption within the judgment of the Committee on Military Science and Physical Training.
4. The requirement may be offset by work taken in military science in institutions of recognized collegiate standing and in military schools approved by the War Department (Department of the Army or Department of the Air Force) in this regard.

5. For students entering with advanced standing, the number of terms of military science required is to be reduced by the number of terms which the student has satisfactorily completed (not necessarily including military science) in a college of recognized standing.
6. Responsibility for the interpretation of the requirement and for its application in individual cases is placed upon the University Faculty Committee on Military Science and Physical Training.
7. Students who have been enrolled in the armed services are exempted from the requirement in Military Science by virtue of such service.
8. A special student admitted for a period of less than two years is exempted from the requirement in Military Science during that period.

The University requirement in Military Science may be satisfied

(a) by four terms of work in the Department of Military Science and Tactics (Military Science 1, 2 and one of the following pairs: 23, 24; 33, 34; 43, 44; 53, 54; or Military Science 61, 62, 63, 64);

(b) by four terms of work in the Department of Air Science and Tactics (Military Science 1, 2; Air Science 3, 4 or 3, 44);

(c) by four terms of work in the Department of Naval Science while registered either as a regular student or as a contract student in the Naval ROTC (Naval Science 101, 102, 201, 202).

Students who have been enrolled in the Armed Services are exempted from the requirement in Military Science. A student who is enrolled in the Organized Naval Reserve Program may postpone the Military Science requirement while he is so enrolled, and the completion of two calendar years of work in the Program shall satisfy the requirement. Any student registered in the Big Red Band may postpone the Military Science requirement for the term in which he is so registered, and any student who satisfactorily completes a term of work in the Big Red Band shall be deemed to have satisfied one term of the University Military Science requirement.

Physical Training. The University Faculty has established the following requirements in physical training for all students:

1. All undergraduate students must complete four terms of work, three hours a week, in physical training.
2. The requirement in physical training is a requirement of the first four terms and postponements are to be allowed only by consent of the Committee on Military Science and Physical Training.
3. Exemptions from the requirement may be made by the University Faculty Committee on Military Science and Physical Training

when it is recommended by the Medical Office or because of unusual conditions of age, residence, or outside responsibilities. Students who have been discharged from the armed forces may be exempted.

4. For students entering with advanced standing, the number of terms of physical training required is to be reduced by the number of terms which the student has satisfactorily completed (not necessarily including physical training) in a college of recognized standing.
5. Responsibility for the interpretation of the requirement and for its application in individual cases is placed upon the Faculty Committee on Military Science and Physical Training.

The University requirement in Physical Training may be satisfied by four terms of work in the Department of Physical Education. For this purpose Physical Education 1, 2, 3, and 4 are available to men and Physical Education 51, 52, 53, and 54, to women.

THE FACULTY COMMITTEE ON MILITARY SCIENCE AND PHYSICAL TRAINING

The Faculty Committee on Military Science and Physical Training has jurisdiction over questions concerning the fulfillment of University requirements in these fields. Any student desiring to consult the committee concerning his status should first see the Faculty representative from his own school or college.

Dean C. C. Murdock, Chairman

C. A. Hanson (School of Industrial and Labor Relations)

Director A. W. Gibson (State College of Agriculture)

Associate Dean M. L. Hulse (College of Arts and Sciences)

Professor H. B. Meek (Department of Hotel Administration)

Professor Peter Olafson (State Veterinary College)

Professor H. J. Loberg (College of Engineering)

Associate Professor Esther Stocks (State College of Home Economics)

Professor F. M. Wells (College of Architecture)

Military Science and Tactics

The Department of Military Science and Tactics presents a four-year course leading to eventual commissioning as a 2nd Lieutenant in the U. S. Army. The first two years of this course (Basic ROTC) are part of the University requirements for a baccalaureate degree unless the student satisfies this requirement by other means. The third and fourth years (Advanced ROTC) are electives and qualify a student for appointment in the Officers Reserve Corps, U. S. Army, or the Regular Army.

The course is designed to perform two missions. The first is to produce junior officers who have the qualities and attributes essential to their continued development in the U. S. Army, Reserve or Regular. The second is to lay the foundations of intelligent citizenship and to make the student cognizant of his personal responsibilities toward the assurance of the continuance of American democracy.

The ROTC offers specialized training for the last three years of the course in several branches of the Army: Field Artillery, Ordnance, Quartermaster, Signal Corps, and for four years in Veterinary Corps. The choice of one of these branches will be made during the second term of basic ROTC based on the student's personal election. Certain of the above branches have educational qualifications for entrance. The Signal Corps Unit will accept students from the School of Electrical Engineering, those from another school or college majoring in Engineering or Physics, or those students having electrical backgrounds. The Ordnance Unit will accept only students in the College of Engineering or those from other colleges majoring in an engineering science. Pre-veterinary students will comply with University requirements for basic ROTC. Upon entrance into the Veterinary College the student may elect to continue in the Veterinary ROTC as outlined below. Veterinary ROTC students are given credit for 29 hours each term of technical instruction in the Veterinary College.

1. *BASIC ROTC*. Fall term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:40 to 4:30.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in military organization, military policy of the U. S., evolution of warfare, maps and aerial photographs.

2. *BASIC ROTC*. Spring term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:40 to 4:30. Prerequisite Military Science 1.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in military psychology and

personnel management, first aid and hygiene, geographical foundations of national power, military problems of the U. S., and military mobilization and demobilization.

23. *BASIC ROTC. FIELD ARTILLERY.* Fall term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:40 to 4:30. Prerequisite Military Science 2.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in field artillery organization, materiel, and service of the piece.

24. *BASIC ROTC. FIELD ARTILLERY.* Spring term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:30 to 4:30. Prerequisite Military Science 23.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in instruments, communications, and motors and transportation.

25. *ADVANCED ROTC. FIELD ARTILLERY.* Fall term. Credit three hours. Hours:—T and Th at 9 or 12 and Th or F from 1:40 to 4:30. Prerequisite Military Science 24.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in communications, duties of battery executive, and field artillery tactics.

26. *ADVANCED ROTC. FIELD ARTILLERY.* Spring term. Credit three hours. Hours:—T and Th at 9 or 12 and Th or F from 1:40 to 4:30. Prerequisite Military Science 25.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in individual weapons and preliminary marksmanship, gunnery, and supply and evacuation.

27. *ADVANCED ROTC. FIELD ARTILLERY.* Fall term. Credit three hours. Hours:—M and W at 9 or 12 and T or W from 1:40 to 4:30. Prerequisite Military Science 26.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in gunnery, surveying, and the fire direction center.

28. *ADVANCED ROTC. FIELD ARTILLERY.* Spring term. Credit three hours. Hours:—M and W at 9 or 12 and T or W from 1:40 to 4:30. Prerequisite Military Science 27.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in command and staff, combat intelligence, the military team, and new developments.

33. *BASIC ROTC. ORDNANCE.* Fall term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:40 to 4:30. Prerequisite Military Science 2.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in role of ordnance, automotive materiel, and small arms materiel.

34. *BASIC ROTC. ORDNANCE.* Spring term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:30 to 4:30. Prerequisite Military Science 33.

Two hours a week of lecture and practical application in ammunition materiel, artillery materiel, and fire control materiel.

35. *ADVANCED ROTC. ORDNANCE*. Fall term. Credit three hours. Hours:—T and Th at 9 or 12, and T from 1:40 to 4:30. Prerequisite Military Science 34.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in functional organization of ordnance department, automotive materiel, and small arms materiel.

36. *ADVANCED ROTC. ORDNANCE*. Spring term. Credit three hours. Hours:—T and Th at 9 or 12 and T from 1:40 to 4:30. Prerequisite Military Science 35.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in ammunition supply, ammunition materiel, artillery materiel, fire control materiel, and individual weapons and marksmanship.

37. *ADVANCED ROTC. ORDNANCE*. Fall term. Credit three hours. Hours:—M and W at 9 or 12 and M from 1:40 to 4:30. Prerequisite Military Science 36.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in maintenance and supply, command and staff, and combat intelligence.

38. *ADVANCED ROTC. ORDNANCE*. Spring term. Credit three hours. Hours:—M and W at 9 or 12 and M from 1:40 to 4:30. Prerequisite Military Science 37.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in military specialty.

43. *BASIC ROTC. SIGNAL CORPS*. Fall term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:40 to 4:30. Prerequisite Military Science 2.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in introduction to signal communication.

44. *BASIC ROTC. SIGNAL CORPS*. Spring term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:30 to 4:30. Prerequisite Military Science 43.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in organization and missions of the signal corps, organization and signal communications practices of infantry, armored, and airborne divisions.

45. *ADVANCED ROTC. SIGNAL CORPS*. Fall term. Credit three hours. Hours:—T and Th at 9 or 12 and M from 1:40 to 4:30. Prerequisite Military Science 44.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in communication security, signal orders, field wire communication fundamentals, and field radio communication fundamentals.

46. *ADVANCED ROTC. SIGNAL CORPS*. Spring term. Credit three hours. Hours:—T and Th at 9 or 12 and M from 1:40 to 4:30. Prerequisite Military Science 45.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in applied signal communication (division), message center and communication center procedure, signal supply and repair, career guidance for signal corps officers, and weapons and marksmanship.

47. *ADVANCED ROTC. SIGNAL CORPS.* Fall term. Credit three hours. Hours:—M and W at 9 or 12 and T from 1:40 to 4:30. Prerequisite Military Science 46.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in wire communication—materiel, and radio communication—materiel.

48. *ADVANCED ROTC. SIGNAL CORPS.* Spring term. Credit three hours. Hours:—M and W at 9 or 12 and T from 1:40 to 4:30. Prerequisite Military Science 47.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in higher echelon signal communication and equipment, post signal operations and administrative procedure, career guidance for signal corps officers, darkroom technique and photographic practices, command and staff, and combat intelligence.

53. *BASIC ROTC. QUARTERMASTER.* Fall term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:40 to 4:30. Prerequisite Military Science 2.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in supply in the Army, organization of QM, classification of QM supplies, accountability and responsibility of property, and research and development of supplies in QMC.

54. *BASIC ROTC. QUARTERMASTER.* Spring term. Credit two hours. Hours:—any one afternoon (M thru F) from 1:30 to 4:30. Prerequisite Military Science 53.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in organization, functions, and operation of QM units, unit and organizational supply.

55. *ADVANCED ROTC. QUARTERMASTER.* Fall term. Credit three hours. Hours:—T and Th at 9 or 12 and T or W from 1:40 to 4:30. Prerequisite Military Science 54.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in station supply, depot supply, and storage, warehousing and materiel handling.

56. *ADVANCED ROTC. QUARTERMASTER.* Spring term. Credit three hours. Hours:—T and Th at 9 or 12 and T or W from 1:40 to 4:30. Prerequisite Military Science 55.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in procurement, storage and distribution of petroleum products, commissary operations, garrison and field bakery operations, post and field laundry operations, salvage operation and procedure, maintenance and reclamation of Quartermaster supplies, graves registration and mortuary activities, food service activities, and individual weapons and marksmanship.

57. *ADVANCED ROTC. QUARTERMASTER.* Fall term. Credit three hours. Hours:—M and W at 9 or 12 and Th or F from 1:40 to 4:30. Prerequisite Military Science 56.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in fiscal procedures, pro-

curement procedures, command and staff, combat intelligence, technical intelligence and organizations and functions of the combatant arms.

58. *ADVANCED ROTC. QUARTERMASTER.* Spring term. Credit three hours. Hours:—M and W at 9 or 12 and Th or F from 1:40 to 4:30. Prerequisite Military Service 57.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in organization and functions of the technical services, Quartermaster operations in the Zone of the Interior, and Quartermaster operations in the Theater of Operations.

61. *BASIC ROTC. VETERINARY.* Fall term. No credit. Hours:—As scheduled by the Veterinary College.

One hour of lecture and/or recitation a week, in world situation, national defense and ROTC, military obligations of citizenship, organization of the Army, and military law.

62. *BASIC ROTC. VETERINARY.* Spring term. No credit. Hours:—as scheduled by the Veterinary College. Prerequisite Military Science 61.

One hour of lecture and/or recitation a week in world situation, national defense and ROTC, organization of the Medical Department, courtesies and customs of the service, military training methods, veterinary military history, and military administration.

63. *BASIC ROTC. VETERINARY.* Fall term. No credit. Hours:—as scheduled by the Veterinary College. Prerequisite Military Science 62.

One hour of lecture and/or recitation a week in world situation, national defense and ROTC, duties of the veterinarian and his relationship to surgeon, veterinary administration, introduction to map reading, and management of army animals.

64. *BASIC ROTC. VETERINARY.* Spring term. No credit. Hours:—as scheduled by the Veterinary College. Prerequisite Military Science 63.

One hour of lecture and/or recitation a week in world situation, national defense and ROTC, veterinary service, zone of the interior, organization and employment of veterinary service of a field army, veterinary service zone of communication, Medical Department supply.

65. *ADVANCED ROTC. VETERINARY.* Fall term. No credit. Hours:—as scheduled by the Veterinary College. Prerequisite Military Science 64.

One hour of lecture and/or recitation a week in world situation, national defense and ROTC, subsistence procurement and the Quartermaster market center system, veterinary military meat and dairy hygiene, procurement and physical examination of animals, movement of animals by rail, water, and air, and general consideration of Army Veterinary Service.

66. *ADVANCED ROTC. VETERINARY.* Spring term. No credit. Hours:—as scheduled by the Veterinary College. Prerequisite Military Science 65.

One hour of lecture and/or recitation a week in world situation, national defense and ROTC, veterinary military meat and dairy hygiene.

67. *ADVANCED ROTC. VETERINARY.* Fall term. No credit. Hours:—as scheduled by the Veterinary College. Prerequisite Military Science 66.

One hour of lecture and/or recitation a week in world situation, national defense and ROTC, veterinary military preventive medicine, veterinary medical aspects of atomic and chemical warfare, personnel management.

68. *ADVANCED ROTC. VETERINARY.* Spring term. No credit. Hours:—as scheduled by the Veterinary College. Prerequisite Military Science 67.

One hour of lecture and/or recitation a week in world situation, national defense and ROTC, inspection of foods of animal origin.

Air Science and Tactics

The students enrolled in courses in the Department of Air Science and Tactics constitute the Cornell unit of the Air Force Reserve Officers Training Corps. This Corps has two missions. The first is to lay the foundations of intelligent citizenship and to give the student such basic military training as will be of benefit to himself and to the military service if he becomes a member thereof. The second is to produce junior officers who have the qualities and attributes essential to their progressive and continued development as officers of the United States Air Force.

The course of instruction is four years in duration. Completion of the first two years satisfies the University military science requirements. (See p. 3.) The third and fourth years of instruction or advanced Air ROTC are elective, and successful completion qualifies the student for appointment as a 2nd Lieutenant in the United States Air Force Reserve.

The Air Force offers two courses of specialization to Basic and Advanced Air ROTC students: Communications or General Administration. Assignment to one of these courses will be made in the first year of military instruction. Engineering students will specialize in Communications. Students from other colleges who are pursuing non-technical academic courses will specialize in General Administration.

1. *BASIC ROTC*. Fall term. Credit two hours. Hours:—any one afternoon (M thru F) 1:40–4:30.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in military organization, military policy of the U. S., evolution of warfare, maps and aerial photographs.

2. *BASIC ROTC*. Spring term. Credit two hours. Hours:—any one afternoon (M thru F) 1:40–4:30. Prerequisite Military Science 1.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in military psychology and personnel management, first aid and hygiene, geographical foundations of national power, military problems of the United States, military mobilization and demobilization.

3. *BASIC ROTC*. Fall term. Credit two hours. Hours:—any one afternoon (M thru F) 1:40–4:30. Prerequisite Military Science 2.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in introduction to aeronautics, aerodynamics and propulsion, weather and navigation, applied air power.

AIR FORCE ADMINISTRATION COURSE

74. *BASIC Air ROTC*. Spring term. Credit two hours. Hours:—any one afternoon (M thru F) 1:40–4:30. Prerequisite Military Science 3.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application in Air Force general administration, for students specializing in administration, consisting of administration, personnel management, supply, and transportation.

75. *ADVANCED Air ROTC*. Fall term. Credit three hours. Hours:—T and Th at 9 or 12, Th or F 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 74. Open to Juniors who are pursuing a non-technical curriculum.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in logistics, air operations, and general administration; consisting of administration, personnel management, supply and transportation.

76. *ADVANCED Air ROTC*. Spring term. Credit three hours. Hours:—T and Th at 9 or 12, Th or F 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 75. Open to Juniors who are pursuing a non-technical curriculum.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in general administration, consisting of administration, personnel management, supply and transportation.

77. *ADVANCED Air ROTC*. Fall term. Credit three hours. Hours:—M and W at 12, W 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 76.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in military administration, Air Force inspection systems, military teaching methods, military law and boards.

78. *ADVANCED Air ROTC*. Spring term. Credit three hours. Hours:—T and Th at 9 or 12, Th or F 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 77.

One hour a week of instruction and practical application in leadership, drill and exercise of command.

Four hours a week of lecture and practical application in Air Force management, career development, and general administration.

AIR FORCE COMMUNICATIONS COURSE

84. *BASIC Air ROTC*. Spring term. Credit two hours. Hours:—any one afternoon, (M thru F) 1:40–4:30. Prerequisite Military Science 3.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Two hours a week of lecture and practical application of Air Force communications systems for students specializing in Air Force Communications.

85. *ADVANCED Air ROTC*. Fall term. Credit three hours. Hours:—T and Th at 12, F 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 84. Open to Juniors who are pursuing an Engineering curriculum.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in logistics, air operations, and communications, consisting of communications, administration, supply, and theory of radio.

86. *ADVANCED Air ROTC*. Spring term. Credit three hours. Hours:—T and Th at 12, F 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 85.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in communications, consisting of theory of radar and wire communications.

87. *ADVANCED Air ROTC*. Fall term. Credit three hours. Hours:—M and W at 9, T 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 86.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in military administration, Air Force inspection systems, military teaching methods, military law and boards, and advanced theory of radio.

88. *ADVANCED Air ROTC*. Spring term. Credit three hours. Hours:—T and Th at 12, F 2:40–4:30. Drill—any one afternoon (M thru F) 1:40–2:30. Prerequisite Air Science 87.

One hour a week of instruction and practical application in leadership, drill, and exercise of command.

Four hours a week of lecture and practical application in Air Force management, career development, and advanced theory of radar and wire communications.

Naval Science

The Department of Naval Science offers an integrated four-year course which normally requires three classroom hours a week plus a two-hour laboratory period. Men enrolled in these courses constitute the Cornell unit of the Naval Reserve Officers Training Corps. Since all NROTC members are officer candidates, the Navy Department also requires summer cruises or tours of duty at shore establishments, the number and length of such assignments depending on whether the student is classified as Regular or Contract.

Entry as a Regular NROTC student is attained through nationwide competitive examinations held each fall at a time announced by the Navy Department. Candidates who pass the examination with an acceptable score are given a physical examination. Those still eligible are interviewed and rated by State committees. Winning candidates are assigned to NROTC units, if possible at the college or university of their first choice.

For Regular students the Government provides free tuition, fees, books, uniforms, and retainer pay at the rate of \$600 a year for four years. While in college, they are Midshipmen, U.S.N.R. and besides taking Naval Science courses are required to spend six to eight weeks each summer on cruises or aviation training. On graduation, they are commissioned Ensigns in the Regular Navy (Line, Civil Engineering Corps, Supply Corps), or Second Lieutenants in the Marine Corps, and are required to serve on active duty for fifteen to twenty-four months, during which they may elect to make the Navy or Marine Corps a career. In the event they do not so elect, they are placed on inactive duty in the Naval or Marine Corps Reserve until six years from the date of graduation.

Entry as Contract NROTC students is obtained by application to the Professor of Naval Science, to fill the quota established by the Navy Department. The student pursues the same course as the Regular NROTC Midshipmen, but is required to participate in only one cruise of about three weeks' duration during one summer, usually between junior and senior years. The Government provides uniforms and naval science textbooks, but does not provide tuition or retainer pay. To advanced students (juniors and seniors) the Government pays the commuted value of one ration a day, currently \$0.90, or approximately \$27 a month. Upon graduation, students are commissioned as Ensigns in the Naval Reserve (Line, Civil Engineering Corps, Supply Corps) or Second Lieutenants in the Marine Corps Reserve, and may volunteer for two years' active duty. If accepted under current quotas, they will

receive commissions in the Navy and have the same options of service, including retention as permanent Regular officers, that Regular NROTC students have; otherwise they will be placed on inactive duty.

Candidates for Regular and Contract status must have attained the age of 17 years before July 1 and September 1 respectively of the year of enrollment, and must not have attained the age of 25 years before July 1 of the year in which they are commissioned. Naval ROTC Midshipmen are deferred from Selective Service.

For further information write to the Professor of Naval Science, Naval ROTC Unit, Cornell University, Ithaca, New York.

101. *NAVAL ORIENTATION*. Fall term. Credit three hours. Lectures MWF 9, 10; TThS 8, 9; Lab W or Th, 2-4. A study of American sea power as related to the growth of the United States, from the Revolution through World War II. Open to first term Naval ROTC Midshipmen.

102. *NAVAL ORIENTATION*. Spring term. Credit three hours. Lectures MWF 9, 10; TThS 8, 9; Lab W or Th, 2-4. A study of naval organization, seamanship, maritime rules of the nautical road, leadership, and communications. Open to second term Midshipmen.

201. *NAVAL ORDNANCE AND GUNNERY*. Fall term. Credit three hours. Lectures MWF 9, 10, 11, TThS 9, 10, 11; Lab W or Th, 2-4. A study of naval weapons and explosives. Open to third term Midshipmen.

202. *NAVAL ORDNANCE AND GUNNERY*. Spring term. Credit three hours. Lectures MWF 9, 10, 11; TThS 9, 10, 11; Lab W or Th, 2-4. A study of fire control systems, radar, sonar and guided missiles. Open to fourth term Midshipmen.

301. *NAVIGATION*. Fall term. Credit three hours. Lectures MWF 9, 10; TThS 10; Lab W or Th, 2-4. A study of navigation methods and equipment. Covers dead reckoning, piloting and maneuvering board. Open to fifth term Midshipmen.

302. *NAVIGATION*. Spring term. Credit three hours. Lectures MWF 9, 10; TThS 10; Lab W or Th, 2-4. A study of meteorology and celestial navigation. Open to sixth term Midshipmen.

312. *CONCEPTS OF MILITARY POLICY AND POWER*. Spring term. Credit three hours. Lectures MWF 9; Lab W or Th, 2-4. A study of the history of military policy and the concepts of military power. Open to sixth term Midshipmen who are candidates for Marine Corps commissions.

401. *NAVAL MACHINERY*. Fall term. Credit three hours. Lectures MWF 9; Lab W or Th, 2-4. A study of the different types of naval engineering propulsion plants. Open to seventh term Midshipmen.

402. *SHIP DAMAGE CONTROL*. Spring term. Credit three hours. Lectures MWF 9; Lab W or Th, 2-4. A study of ship construction as pertains to damage control, also naval leadership and naval law. Open to eighth term Midshipmen.

411. *ANALYSIS OF AMERICAN BATTLES*. Fall term. Credit three hours. Lectures MWF 9; Lab W or Th, 2-4. A history of American warfare in the growth of the nation. Open to seventh term Midshipmen who are candidates for Marine Corps commissions.

412. *AMPHIBIOUS OPERATIONS*. Spring term. Credit three hours. Lectures MWF 9; Lab W or Th, 2-4. A detailed study of the technique and history of amphibious operations. Open to eighth term Midshipmen who are candidates for Marine Corps commissions.

Physical Education

COURSES FOR MEN

All entering students are given a physical test and as a result of this and of the physical examination given by the Department of Clinical and Preventive Medicine each student is given one of four classifications, A, B, C, or D. Assignment to courses is made on the basis of this classification.

1. *INDIVIDUAL CORRECTIVES*. Either term. Credit one hour. Open only to students assigned to Classification A by the Department of Clinical and Preventive Medicine. Three to five periods a week as assigned, M thru F, 1:45 to 5. OLD ARMORY.

Under the personal scrutiny of the Remedial Instructor, with weekly checks by the Department of Clinical and Preventive Medicine, each student here assigned receives individual attention according to his needs. Minor, as well as major, physical defects are treated. Marked development and improvement through this physical and recreational therapy enables students to transcend physical barriers.

2. *GROUP CORRECTIVES*. Either term. Credit one hour. Open only to students assigned to Classification B by the Department of Physical Education. Three periods a week as assigned, M thru F, 9 to 1 and 1:45 to 3:45; S, 9, 10, 11. OLD ARMORY.

Students are selected from departmental tests and include those who need special attention because of excessive obesity, hollow chests, poor arm and shoulder development, particular lack of coordination, and no previous physical skill ability. Since classification B men differ so widely physically, individual routines are assigned, results noted and carefully checked, with proper tests given several times each term.

3. *BASIC PROGRAM*. Either term. Credit one hour. Open only to students assigned to Classification C by the Department of Physical Education. Three periods a week as assigned, M thru F, 9 to 1 and 1:45 to 3:45; S, 9, 10, 11. OLD ARMORY.

From classification tests given three times a year, this particular group forms itself. Students who fail to achieve high enough ratings to gain the choice play program are automatically assigned here. Effort, attitude and individual capabilities are determining factors. This work is primarily a rigorous, general conditioner. Special emphasis is placed on arm, shoulder, leg, and abdominal development supplemented with simple skills, mass calisthenics, and limited use of apparatus.

4. *SPORTS PROGRAM*. Either term. Credit one hour. Open only to students assigned to Classification D by the Department of Physical Education. Three periods a week as assigned, M thru F, 9 to 1 and 2:45, 3:15, 4:45; S, 9, 10, 11. BARTON HALL and ALUMNI FIELDS.

An unlimited choice of activity is afforded each student. Offerings according to seasonal activities are as follows: badminton, basketball, bowling, boxing, golf, gymnastics, Pershing Rifles, riding, soccer, speedball, tennis, volleyball, touch football, weight lifting, wrestling, advanced swimming. Varsity sports in season automatically excuse a student with a "D" classification from the required program. Attendance at all team practices is required in lieu of Physical Training. Varsity sports offerings are as follows: basketball, crew, cross country, fencing, golf, football, hockey, pistol, polo, rifle, skiing, soccer, swimming, tennis, track, wrestling. (The above may also include Freshmen, 150# and JV teams.)

5. *SWIMMING PROGRAM*. All entering students are required to take and pass the swimming test. It should be noted that successful completion of this test is a requirement of the Physical Education Department. Course offerings are as follows:

Corrective Swimming—Open only to students assigned by the Medical Department. M thru F at 12.

Beginners' Swimming—Open only to non-swimmers. M thru F. Hours to be assigned.

Advanced Swimming—Open only to students with Classification D. M thru F. Hours to be assigned.

Open Swimming—Open to all University students subject to pool regulations. M thru F. Hours to be assigned.

All tests and classes are given in the OLD ARMORY swimming pool.

COURSES FOR WOMEN

An orthopedic examination and motor ability tests are required of all freshmen and sophomore transfers during the first week of the fall term.

All students, with the exception of those classified under (a) or (b) below are required to take *Physical Education 51* during the fall or spring term of the freshman year.

- (a) Those whose physical, orthopedic, or motor ability examinations indicate a need for individual instruction or restricted activity are assigned to *Physical Education 53* or to specially designated activities in *Physical Education 54*.
- (b) Those who receive an exceptionally high rating in the orthopedic and motor ability examinations may exempt *Physical Education 51* and register for *Physical Education 52* the fall or spring term of the freshman year.

Physical Education 52 is required of all physically qualified students immediately following the completion of *Physical Education 51*. During the remainder of the two-year requirement any of the activities offered may be selected. Juniors and Seniors may register without credit for activities of their choice.

51. *FUNDAMENTALS*. Either term. Credit one hour. Three periods a week as arranged.

Nine weeks of indoor work and six weeks of an outdoor sport selected from *Physical Education 54*. The indoor work is devoted to exercises for improving body control and discussion of the role of exercise, correct use of the body, and health habits in maintaining physical fitness.

52. *RHYTHMICS*. Either term. Credit one hour. Prerequisite *Physical Education 51*. Three periods a week as arranged.

A study of a rhythmic basis for elementary movement with emphasis on body control. It is the aim to extend the student's natural movement facility and to stimulate a better understanding of dance as an art form through discussion, the presentation of dance in concert, lecture, and films.

53. *INDIVIDUAL GYMNASTICS*. Either term. Credit one hour. Open only to students recommended by the Medical or Physical Education staff. Three periods a week as arranged.

Nine weeks of indoor work consisting of prescribed exercises adapted to the individual student's needs, and six weeks of an outdoor sport.

54. *ACTIVITIES*. Either term. Credit one hour. Three periods a week as arranged.

Nine weeks devoted to an indoor activity and six weeks to an outdoor activity.

Outdoor: Fall term —archery, golf, hockey, soccer, tennis

Spring term—archery, canoeing, golf, softball, tennis

Indoor: Fall term —badminton, basketball, bowling, outing (skiing, skating, hiking), riflery, square and folk dancing

Spring term—badminton, bowling, golf, life saving, outing (skiing, skating, hiking), riflery, square and folk dancing, volleyball.

Throughout the term (15 weeks): intermediate dance (prerequisite Physical Education 52), riding.

100. *CAMP COUNSELOR TRAINING*. Spring term. Credit two hours. Lectures, first seven weeks M and W 2:00. Laboratory, second seven weeks, 2 to 4. Miss STEWART. Register at Sage Gymnasium Office.

A study of: the aims and values of camping; types, organization, and administration of camps; qualifications and responsibilities of the counselors; laboratory instruction in campcraft.

THE DANCE. The following courses are designed to offer background in the history of the dance, experience in composition of dance forms and in technique of dance movement. In addition to the assigned meetings, there is a rehearsal schedule to meet production demands throughout the term. Register at Sage Gymnasium Office.

200. *PRE-CLASSIC DANCE FORMS*. Either term. Credit three hours. Prerequisite Physical Education 4 (Intermediate Dance) and consent of the instructor. M 4:30, T 4:30, Th 7:30. Miss ATHERTON assisted by Miss RIVERS.

201. *MODERN DANCE FORMS*. Either term. Credit three hours. Prerequisite Dance 200. M 4:30, T 4:30, Th 7:30. Miss ATHERTON assisted by Miss RIVERS.

202. *CHOREOGRAPHY FOR SOLO AND GROUP*. Either term. Credit three hours. Prerequisite Dance 201. M 4:30, T 4:30, Th 7:30. Miss ATHERTON assisted by Miss RIVERS.

203-204. *INFORMAL STUDY*. Either term or throughout the year. Credit three hours. Open only to exceptionally qualified students. Prerequisite Dance 202 and consent of the instructor. Hours to be arranged. Miss ATHERTON.

Clinical and Preventive Medicine

The Department of Clinical and Preventive Medicine, besides offering clinical services for students who are ill, contributes to their total educational experience by offering academic courses. These courses are designed to give instruction in matters of health. They range in scope from nutritional subjects to problems of mental health. Both the individual and public health aspects are considered.

108. *MENTAL HYGIENE*. Spring term. Credit three hours. Open to sophomores and upperclassmen. MWF 11. Dr. DARLING.

The relationship of the structure of the total personality to environmental maladjustment as evidenced by physical and social behavior; a discussion of the more common personality difficulties and the role of insight in the prevention of these.

202. *PERSONAL AND COMMUNITY RESPONSIBILITY FOR HEALTH*. Spring term, 1950-1951. Credit two hours. Open to upperclassmen. Th 4-6. Dr. MOORE and associates.

It is the purpose of this course to offer opportunity for insight into the impact that problems of health have on the people of the community and the force of the impact often encountered when health fails the individual.

It is planned that several visiting specialists will contribute discussions emphasizing the different concepts of the problem as observed from their experience in their respective disciplines, namely—public health, tuberculosis control, biochemistry, clinical medicine, hospital administration, industrial health, and municipal government administration.

The reconciliation of the various points of view expressed will be the responsibility of the co-ordinator of the course.

375. *PUBLIC HEALTH NUTRITION TECHNIQUES*. Fall term. Credit one hour. Registration by consent of instructor. For School of Nutrition and Graduate School students only. W 9. Savage Hall. Mrs. BERRESFORD.

A discussion of the function of the public health nutritionist in official and voluntary agencies at the national, state, and local level, and a study of various techniques employed in executing a nutrition program, such as low cost budgeting, racial diet patterns, interviewing, evaluation and preparation of educational materials and visual aids, clinic procedures, consultation to institutions, and nutrition education in schools.

381-382. *FIELD OBSERVATION AND EXPERIENCE IN COMMUNITY NUTRITION*. Given throughout the year, either or both terms. Credit two hours per term. Prerequisite consent of the instructor. For School of Nutrition and Graduate School students. Th 9-12 and others as arranged. Room as arranged. Mrs. BERRESFORD.

Supervised observation and experience in the community nutrition program of a county health unit. Supervision is provided by a qualified nutritionist.

392. *CLINICAL AND PUBLIC HEALTH NUTRITION*. Spring term. Credit two hours. Prerequisites a course in nutrition, in physiology, and in biochemistry. Registration by permission of instructor. For School of Nutrition and Graduate School students. TTh 12. Savage 145. Miss YOUNG and members of the medical staff.

This course is designed to familiarize the student with some of the applications of nutrition in clinical and public health problems.

Faculty

Edmund Ezra Day, Ph.D., LL.D., *Chancellor of the University.*
Cornelis Willem de Kiewiet, Ph.D., *Acting President of the University.*
Carleton Chase Murdock, Ph.D., *Dean of the Faculty and Chairman of
the Committee on Military Science and Physical Training.*

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Col. Ralph Hospital, *Field Artillery, U. S. Army, Professor of Military
Science and Tactics, and Commandant.*

ASSISTANT PROFESSORS

Lt. Col. Philip B. Stiness, *Coast Artillery Corps, U. S. Army.*
Lt. Col. William E. Jennings, *Veterinary Corps, U. S. Army.*
Lt. Col. Joseph P. Alexander, Jr., *Quartermaster Corps, U. S. Army.*
Lt. Col. Victor C. Warren, *Signal Corps, U. S. Army.*
Major Arvel C. Stafford, *Field Artillery, U. S. Army.*
Major Henry L. Seger, *Ordnance Department, U. S. Army.*
Major Richard A. Shagrin, *Coast Artillery Corps, U. S. Army.*
Captain George M. Calvert, *Quartermaster Corps, U. S. Army.*
Captain Lawrence B. Clark, *Field Artillery, U. S. Army.*
Captain Arthur G. Pinkham, *Signal Corps, U. S. Army.*
Captain Clyde W. Raybuck, *Quartermaster Corps, U. S. Army.*
Captain Kenneth E. Nelson, *Ordnance Department, U. S. Army.*
William A. Campbell, M.A., *Director of Bands.*

SPECIAL LECTURERS

Dr. E. C. Showacre, M.D.
Professor A. W. Smith, Ph.D.
Dr. M. B. Tinker, Jr., M.D.

DEPARTMENT OF AIR SCIENCE AND TACTICS

Col. George T. Crowell, *U. S. Air Force, Professor of Air Science and
Tactics.*

ASSISTANT PROFESSORS

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Captain James E. Sever, *U. S. Air Force.*
Captain Warren P. Laws, *U. S. Air Force.*
1st Lt. Walter Mule, *Signal Corps, U. S. Army.*

DEPARTMENT OF NAVAL SCIENCE

Captain Charles W. Gray, *U. S. Navy, Professor of Naval Science.*

ASSISTANT PROFESSORS

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 Major Duncan H. Jewell, *U. S. Marine Corps.*
 Lt. Comdr. Robert J. Fleming, *U. S. Navy.*
 Lieutenant William R. Bennett, *U. S. Navy.*
 Lieutenant Edward J. Hannon, Jr., *U. S. Navy.*
 Lieutenant (J.G.) Robert C. Barnhart, *U. S. Navy.*

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Robert J. Kane, B.S., *Director of Athletics.*
 E. B. Wilson, *Director of Physical Training.*
 Miss Dorothy H. Bateman, *Director of Physical Training for Women.*

INSTRUCTORS FOR MEN

Georges L. Cointe	F. J. Kavanagh	L. C. Montgomery
R. L. Cullen, B.S.	Charles Lent, M.S.	R. H. Sanford, B.A.
P. J. Filley	Richard Lewis	L. W. Schoel, M.Ed.
R. C. Greene, B.S.	G. S. Little	R. H. Smith
G. L. Hall	E. J. Miller, Jr.	Hanley Staley

INSTRUCTORS FOR WOMEN

Miss May Atherton	Mrs. Nancy Fisher, B.S.	Miss Gertrude Rivers
Mrs. Kerstin Baird	Miss Ruth Ketler	Miss Mary Stewart, A.B.
Donald G. Drier	Miss Gloria Newman	

DEPARTMENT OF CLINICAL AND PREVENTIVE MEDICINE

Norman S. Moore, M.D., <i>Head of Department of Clinical and Preventive Medicine.</i>	John W. Hirshfeld, M.D., <i>Research Associate</i>
Ralph Alexander, M.D.	A. H. Leighton, M.D.
Kathleen Berresford, M.S.	Ethel E. Little, M.D.
Harry Britton, M.D.	Helen Pilcher, M.N.S.
Temple Burling, M.D.	Alexius Rachun, M.D.
C. Douglas Darling, M.D.	Charles Shaw, M.D.
Paul Darsie, M.D.	Edward C. Showacre, M.D.
Helen Elston, M.D., <i>Research Associate</i>	Henry B. Wightman, M.D.
Jennette Evans, M.D.	Harold H. Williams, Ph.D., <i>Research Associate</i>
Grace Fiala, B.A., <i>Research Associate</i>	Jocelyn Woodman, M.D., <i>Research Associate</i>
	**Charlotte Young, Ph.D.

**Leave of absence, Fall term, 1949-1950.

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